

Enterprises operating in the bottom of the pyramid and their contributions to sustainability: framework of analysis and empirical evidences

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Abstract

Discussions on the theoretical perspective of the Bottom of the Pyramid (BoP) are gaining space in research on Administration. However, an insufficient number of studies have been conducted from a more pragmatic point of view of the link between business activities in low-income markets and aspects related to sustainability. Given the identified theoretical gap, this article aims to analyze the performance of companies in the BoP and their contributions to the economic, social and environmental dimensions of sustainability. Therefore, we developed an integrative analysis of 100 publications on BoP listed in the Web of Science database. From this we built an analytical framework, which consists of 21 criteria grouped into five categories of analysis, which indicates the existence of six typologies of enterprises, these being: traditional, appropriate, innovative, focused on mutual benefits, appropriate to the environmental dimension and directed to sustainability. For empirical verification, we developed a study of multiple cases involving five cases of companies operating in the Brazilian economic BoP and their contributions to sustainability. The empirical results show greater concern for the economic and social dimensions, reaffirming the central argument of the perspective, and less concern to environmental, highlighting the recent emphasis on this aspect. As for the main theoretical contribution, there is a proposal for a more pragmatic and unified view of these discussions, involving the categories, criteria and typologies analyzed. This may assist in the development of new researches in the area.

Keywords: Bottom of the Pyramid (BoP). Sustainability. Poverty. Analysis framework.

Empresas atuantes na base da pirâmide e suas contribuições para a sustentabilidade: quadro de análise e evidências empíricas

Resumo

As discussões sobre a perspectiva teórica da base da pirâmide (bottom of the pyramid – BoP) têm ganhado espaço nas pesquisas em administração. Entretanto, um número insuficiente de estudos foi realizado sob um ponto de vista pragmático acerca da vinculação entre a atuação empresarial em mercados de baixa renda e aspectos relacionados à sustentabilidade. Diante da lacuna teórica identificada, este artigo tem por objetivo analisar a atuação de empresas na BoP e suas contribuições com as dimensões econômica, social e ambiental da sustentabilidade. Para tanto, desenvolveu-se uma análise integrativa de 100 publicações sobre BoP listadas na base de dados Web of Science, a fim de construir um quadro analítico, composto por 21 critérios, agrupados em 5 categorias, que indicam a existência de 6 tipologias de empresas segundo sua atuação: 1) tradicional; 2) adequada; 3) inovadora; 4) focada em benefícios mútuos; 5) adequada à dimensão ambiental; e 6) direcionada à sustentabilidade. Para a verificação empírica, desenvolveu-se um estudo de casos múltiplos envolvendo 5 casos de empresas atuantes na BoP econômica brasileira e suas contribuições com a sustentabilidade. Os resultados empíricos indicam maior preocupação com as dimensões econômica e social, reafirmando o argumento central da perspectiva, e menor preocupação com a dimensão ambiental, destacando a recente ênfase nesse aspecto. Quanto à contribuição teórica principal, destaca-se a proposta de uma visão pragmática e unificada sobre tais discussões, envolvendo as categorias, os critérios e as tipologias analisadas. Isso pode pautar o desenvolvimento de novas pesquisas da área.

Palavras-chave: Base da pirâmide. Sustentabilidade. Pobreza. Quadro de análise.

Empresas que operan en la base de la pirámide y sus contribuciones a la sustentabilidad: tabla de análisis y evidencias empíricas

Resumen

Las discusiones sobre la perspectiva teórica de la base de la pirámide (*bottom of the pyramid* – BoP) están ganando espacio en las investigaciones de Administración. Sin embargo, se ha realizado un número insuficiente de estudios desde un punto de vista más pragmático sobre la vinculación entre la actuación empresarial en mercados de bajos ingresos y los aspectos relacionados a la sustentabilidad. Dada la brecha teórica identificada, este artículo tiene por objetivo analizar la operación de las empresas en la BoP y sus contribuciones a las dimensiones económica, social y ambiental de la sustentabilidad. Para ello, se desarrolló un análisis integrado de 100 publicaciones sobre la BoP, registradas en la base de datos *Web of Science*, con el propósito de elaborar una tabla de análisis, compuesta por 21 criterios, agrupados en cinco categorías, que indican la existencia de seis tipologías de empresas según su actuación: tradicional, adecuada, innovadora, enfocada en beneficios mutuos, adecuada a la dimensión ambiental y dirigida a la sustentabilidad. Para la validación empírica, se desarrolló un estudio de casos múltiples, incluyendo cinco casos de empresas que operan en la BoP de la economía brasileña y sus contribuciones a la sustentabilidad. Los resultados empíricos muestran una mayor preocupación con las dimensiones económica y social, lo que reafirma el argumento central de la perspectiva; y una menor preocupación con la dimensión ambiental, lo que demuestra que el énfasis en este aspecto es reciente. En cuanto a la principal contribución teórica, se destaca la propuesta de una visión más pragmática y unificada sobre tales discusiones, que incluya las categorías, criterios y tipologías analizadas. Esto podrá orientar el desarrollo de nuevas investigaciones en esta área.

Palabras clave: Base de la pirámide (BoP). Sustentabilidad. Pobreza. Tabla de análisis.

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INTRODUCTION

Throughout history, humankind has achieved better living conditions, but such benefits do not fully affect all people in the world, resulting in economic and social problems, most commonly observed in poor and developing countries (PRAHALAD and HART, 2002; HART and MILSTEIN, 2003, PRAHALAD, 2005; HART, 2008; SIMANIS and HART, 2008; PORTER and KRAMER, 2011). Among these problems, poverty stands out as one of the most profound and complex (ROGERS, JALAL and BOYD, 2008), requiring cooperation between various actors such as governments, non-governmental organizations (NGOs), humanitarian aid institutions and business organizations in order to organize strategies that intend to alleviate poverty in the world.

In the face of the world's poverty scenario and businesses' – especially multinational companies - need to reach new markets, the concept of the "bottom of the pyramid" (BoP) was proposed at the beginning of this century. According to this concept, the new wave of growth of the organizations would come by attending to the poorest markets in the world, until then taken for granted by the strategies of the companies. In return, with the integration of the poorest communities in the world into the global consumer market, poverty would be alleviated or at least the quality of life of the worse-off would be improved (PRAHALAD and HART, 2002; PRAHALAD, 2005). However, the inclusion of global BoP in the traditional global consumer market could also worsen environmental problems, such as resource-intensive and waste disposal problems (BENDELL, 2005; KARNANI, 2007; JOSE, 2008 and HART, 2011).

In light of this, research involving BoP's theoretical perspective on aspects of sustainability is important to clarify how these two topics can be reconciled in the context of poverty and environmental issues (KOLK and VAN TULDER, 2010; GOLD, HAHN and SEURING, 2013). Faced with the issue of the need to create value for the BoP population in order to improve the living conditions of its members, to alleviate poverty in the world, to seek new business opportunities for companies and with the inability of traditional consumer model to promote the necessary, this study aims to:

- Analyze the companies at the bottom of the pyramid and their contributions to the economic, social and environmental dimensions of sustainability.

For this purpose, a framework of analysis and typologies about the performance of companies in the BoP and their contributions to sustainability is proposed. This was possible by carrying out an integrative review of publications about the BoP from 1998 to 2015, in order to answer the following question:

- What are the criteria that a company needs to encompass in order to attend to the BoP populations?

Based on 21 criteria, grouped into 5 categories, 6 typologies were developed to analyze companies active in BoP and their contributions to the economic, social and environmental dimension of sustainability. Therefore, this study investigated 5 cases of companies with the intention of empirical verification of the analytical framework developed.

We highlight the theoretical relevance of this research by proposing a analytical framework, involving criteria and typologies, that can be used for a better and more pragmatic understanding of the performance of companies in BoP and its consequences for the dimensions of sustainability. As for the practical contributions, the study can guide new enterprises that seek to provide profitability and social benefits to the poor, especially in developing countries, since in Brazil, for example, the number of people living in poverty (per capita income up to \$ 3.10 per day), in the year 2013, was approximately 18.5 million (WORLD BANK, 2016a) - 10 million of which were living in extreme poverty (less than \$ 1.9 a day) (WORLD BANK, 2016b).

The article is structured in 8 sections; beyond this introduction, we have: 2) theoretical foundations of the bottom of the pyramid; 3) theoretical foundations of sustainability; 4) methodological procedures; 5) proposal of a classification and analytical framework for the performance of companies at the bottom of the pyramid; 6) case studies and their relations with the market at the bottom of the pyramid; 7) contributions to sustainability; and 8) final considerations.

BOTTOM OF THE PYRAMID

Although initial aspects of the BoP concept were presented by Prahalad and Lieberthal (1998), their foundations and main assumptions were introduced by Prahalad and Hart (2002), Prahalad and Hammond (2002) and Prahalad (2005), who defined BoP as being composed of people who had in common the inability to satisfy their basic needs. This was in part due to the fact that they could not pay the price charged for products sold with a focus on the top and middle of the world's economic pyramid. However, if organizations, especially multinationals, started to offer goods and services to the poorest, they could contribute to "improving their lives by producing and distributing goods and services adapted to their cultures, habitats and needs" (PRAHALAD and HART, 2002, p.3). By doing so, organizations would be including the marginalized in the current economic model and could also increase their market share and profits. This perspective would constitute a new economic opportunity for business organizations (PRAHALAD and HART, 2002; PRAHALAD and HAMMOND, 2002).

After the publication of the first studies under the BoP perspective, some criticisms arose around 4 main questions: 1) size of the market: there would not be a large market to be explored by companies in the BoP (JAISWAL, 2008; JENKINS, 2005; KARNANI and LANDRUM, 2007); 2) multinational companies: multinational companies would not be actors of great relevance in the BoP markets, since most of the studies dealt with small and national companies (BENDELL, 2005; JOSE, 2008 and LANDRUM, 2007); 3) real poverty alleviation: companies would have no real interest in alleviating poverty, but would use their insertion in the BoP as marketing strategies to reach new markets and increase their profitability (BENDELL, 2005; JAISWAL, 2008; JENKINS, 2005; KARNANI, 2007; LANDRUM, 2007); 4) environmental problems: increasing consumption in BoP markets would increase problems related to resource scarcity and excess waste disposed of in the environment (BENDELL, 2005; JOSE, 2008).

From these critiques, the BoP perspective underwent a process of remodeling and Simanis and Hart (2008) recognize that the concept formulated initially was focused outside of the poor communities and the development of the BoP population was not always achieved. Given this, the BoP concept came to its second generation or, as it was known, BoP 2.0. According to Simanis and Hart (2008), the BoP 2.0 requires co-invention and co-creation processes capable of bringing corporations closer to BoP communities through business partnerships. Thus, in BoP 2.0, companies would not only be deep listeners of poor consumers, but also become institutions committed to the poor, able to maintain deep dialogues with the population in order to obtain mutual benefits. In this phase of the BoP literature, the global BoP population would be seen as business partners, acting as suppliers, distributors, employees, and consumers (SIMANIS and HART, 2008). In Hahn's (2009) view, it is appropriate to think of poor people not only as consumers in a potential market, but also as part of the value chain. Consequently, benefits would be generated for the population, such as increased income, while they would become an even more promising market for the commercialization of products and services and, thereby, would contribute to the development of the organizations.

In a more recent analysis, Casado-Caneque and Hart (2015) proposed BoP 3.0, a third generation of discussions about how companies could help the development of the poor populations and, consequently, increase their market. Among the proposals discussed in BoP 3.0, we highlight open innovation, the development of partnership networks among the various sectors of the economy, sustainable development and the possibility of replication of the model.

In light of these theoretical contributions, the BoP perspective fosters several associations with other areas of study. Within this context, business opportunities for BoP companies, business models and creation of social value (SINKOVICS, SINKOVICS and YAMIN, 2014), corporate social responsibility (DAVIDSON, 2009) and sustainability dimensions (GOLD, HAHN and SEURING, 2013) were considered in the study. These discussions highlight the need for studies involving sustainability and its relationship with BoP, which is the focus of the next section.

SUSTAINABILITY

The World Commission on Environment and Development (WCDE, 1987, p. 54) defined the term sustainable development as “one that meets the needs of the present without compromising the ability of future generations to meet their own needs.” After the publication of some reports and several World Conferences, the discussion on sustainability began to include not only government agencies, but also organizations (STEURER, LANGER, KONRAD et al., 2005), emphasizing organizational discussions.

In this sense, one of the main concerns of different actors regarding sustainability and sustainable development was to understand this concept, still under construction, and its relation to the progress of society in respect to development, and not only economic growth. According to Sachs (1998, p. 152), “understanding under what conditions growth is accompanied by genuine development” was necessary. In addition, the author complements that sustainable development should be worked from specific perspectives for the social, economic, ecological, spatial and cultural dimensions (SACHS, 1993). The division of the concept into dimensions contributed to the identification of the purpose of each approach, its operationalization and how they connect (SACHS, 1993; BARBIERI and CAJAZEIRA, 2012).

The concept of sustainable development gained even more prominence when John Elkington adapted it to the business context, adopting the term sustainability. This concept was operationalized by what is known as the triple bottom line (TBL), by establishing a relationship between the three pillars of sustainability: 1) *profit*: represents profit and economic development; 2) *planet*: involves measuring the environmental impacts and risks generated by the organizations involved and their ability to develop solutions to reduce their impacts on the environment; 3) *people*: covers ethical, social and political issues concerning the community in which the organization is embedded (ELKINGTON, 1994; 1997).

In face of this configuration of sustainability, organizations have come to occupy a central role in the model that contemplates economic, environmental and social issues and, inasmuch they try to reconcile benefits in these three dimensions, they can contribute to sustainable development (HART and MILSTEIN, 2003). This contribution would play a central role in BoP, since for Hart (1997) and Hart and Milstein (2003) companies are key players in generating actions that contribute to sustainable development. This is because companies have high access and control over resources and technologies, as well as global reach, and have incentives to search for new opportunities for generating competitive advantage.

The need to adapt to sustainable precepts must also be considered in the performance of companies in the global economic BoP. This is because the inclusion of approximately 2.4 billion people considered by the World Bank (2014) as poor in the world in the global consumer market could pose major problems for the planet, which already shows signs of depletion of natural resources and inability to maintain indispensable resources for the maintenance of life (UNEP, 2012). Studies that connect sustainability and poverty were published by Rodriguez, Siegel, Hillman et al. (2006), Kolk and Van Tulder (2010) and Gold, Hahn and Seuring (2013), also highlighting the academic interest in research that addresses the connection between these two fields of study.

According to Hart (2011, p. 80), “like any emerging phenomenon, however, innovation tends to create new problems while resolving the old ones. BoP is no exception.” The argument refers to companies that have established business relationships with BoP seeking quick profits and to the new problems that could arise, such as the sale of products that are not in line with sustainability or are unsuitable to the BoP population. If growth in world consumption rates continues at its current pace, natural resources, the basis for all economic activity and for human survival, can be totally destroyed. Given this scenario, Hart (2011) proposes a “green leap” of innovation. If these sustainable development strategies are accepted by the business world, developing markets around the world, in addition to developed markets, could benefit from this new business model.

Faced with this conflict between the need for development of the world’s poorest people and the impossibility of this growth to occur traditionally, by not considering environmental issues, there is a need to align BoP’s strategies with sustainability principles - that is, how projects that consider the populations of BoP could be economically viable, environmentally correct and socially inclusive.

METHODOLOGY

To fulfill the purpose of this study, it was necessary to construct an analytical framework, since no single one could be used to analyze the relationship between the BoP perspective and the dimensions of sustainability. Only the work of London (2009) addresses similar issues in discussing the impact of firms on BoP communities. However, since the goal of this research is related to the impact on BoP of economic, social and environmental requirements, this model was not used, and it was decided to develop a different framework.

In order to do so, an integrative review (TORRACO, 2005) of the literature on BoP with the publications indexed in the Web of Science database for the period from 1998 to 2015 was carried out. The delimitation of the period sought to include more publications in the area since Prahalad and Lieberthal (1998), considered the first on the topic, was published. The first phase of the article selection process involved the search by means of 2 keywords, corresponding to the main variants of the term, “bottom of the pyramid” and “base of the pyramid”, for the fields “title”, “words key “and” summary “. The authors restricted the search to peer-reviewed journals published in English. The results of the research, considering the previously described criteria, involved 213 articles, selected for the selection refinement step.

The authors then reviewed the titles, keywords and abstracts of the selected articles, and discarded 44, which did not relate to the concept of BoP or just mentioned it indirectly. In the third and final phase of the process, the remaining 169 articles were read, especially the title, keywords, abstract, introduction, analysis and discussion sections and conclusions. At this point, another 69 were discarded, if the actual content of the article was not directly or superficially related to the BoP approach. Finally, 100 articles were selected for review and analysis.

The integrative analysis technique used in this article is defined as “the form of research that analyzes, criticizes and synthesizes the literature that represents a topic in an integrated way so that new frames and perspectives on the theme are generated” (TORRACO, 2005, p. 356). It was chosen as best suited to the purpose of this research. This technique is widely used in academic studies of health (BARBOSA and MELO, 2008), but its contribution to organizational studies has already been used in strategy and cognition studies (NARAYANAN, ZANE and KEMMERER, 2011), quality management (KIM, KUMAR and MURPHY, 2010), marketing (KRISHNA, 2012). According to Botelho, Cunha and Macedo (2011, p. 122), the integrative review allows the researcher in the management area “to approach the problems he wants to appreciate, considering all of the scientific production on that particular topic, so that one can know the evolution of the topic over time and, thereby, visualize possible research opportunities”.

From the 100 selected publications, the authors began the complete reading and analysis of the articles with the purpose of answering the following question: what are the criteria that a company needs to contemplate in order to work with BoP populations? For this, a data analysis worksheet was used, consisting of descriptive fields, which included year of publication, author, title, periodical, and exploratory topics, responsible for describing how the study in question suggested a relevant criterion for the performance of companies in the BoP.

These criteria were directly related to the case(s) analyzed in empirical articles or with arguments based on theoretical publications. As an example, the criterion of “payment and credit facility” was based on indications from authors who reported the relevance of this strategy in BoP markets, since products and services previously inaccessible to these populations would only succeed when offered in conjunction with new possibilities of payment and credit, such as installment plans and/or discounts. Similarly, another 20 criteria emerged from the readings and analysis. Each criterion was selected when the two authors of this study agreed. In a second step, the authors jointly analyzed the 21 criteria in order to group them into categories. Five categories of analysis were developed: 1) traditional; 2) appropriate; 3) innovative; 4) mutual benefits; and 5) environmental suitability. The 21 criteria are accommodated according to Box 1.

In keeping with these criteria, organized into categories, the authors developed a proposal of typologies of companies operating in BoP, based on their relationship with sustainability. For this, the social, environmental and economic dimensions of sustainability are explored for each of the proposed typologies, indicating 6 forms of action: 1) traditional;

2) appropriate; 3) innovative; 4) focused on mutual benefits; 5) appropriate to the environmental dimension; and 6) focused on sustainability (Box 2).

Additionally, with the goal of developing an empirical analysis from the box in question, 5 cases of companies that were related to the BoP population were selected. Priority was given to businesses in different sectors, aiming to extend analytical capacity. For this purpose, the steps for the development of multiple case studies were followed, as indicated by Eisenhardt (1989) and Yin (2015).

Data collection was performed through semi-structured interviews, observation and documental research. The interviews were carried out with the entrepreneurs and employees, as they were directly related to the management of the companies investigated. Non-participant observation was used in order to confirm or even refute some points raised in the interviews. Finally, documental research was used to confirm or counter the information obtained, complementing the other collection sources. We thoroughly analyzed websites, videos, articles developed by government agencies, among other documents available on the Internet or provided by the companies investigated.

The analysis of the data followed the indications of the technique of content analysis and its three phases (BARDIN, 1993): 1) pre-analysis, involving the first reading of the material collected; 2) exploration of the material, initial codification and categorization of data and treatment of results; and 3) inference and interpretation of the data, step in which the previously defined coding and categorization were confirmed and the analysis was finalized in the computational program Atlas.ti.

CLASSIFICATION AND ANALYSIS OF BOP BUSINESS ACTIVITIES AND THEIR CONTRIBUTIONS TO SUSTAINABILITY

As described in the previous section, an analysis chart with 21 criteria divided into 5 categories of business orientation was developed: the first category approaches traditional practices from companies within the BoP, by highlighting strategic aspects that could be examined in these organizations; the second one refers to products and services for properly meeting the needs of underserved communities; the third one seeks to raise analysis elements related to the several types of innovations for providing services to the poor communities of the world, as well as the economic benefits for the organization; the fifth and last category proposed refers to the necessity of dealing with environmental matters (Box 1).

Box 1

Categories and criteria of the pyramid base

Category	Criterion	Characteristics
Traditional	BoP as a new market	Considers the low-income population as a new market full of unmet needs.
	Aspiration template	Need to present products and services to low-income populations, explaining their functionalities and even offering specific training.
	Ease of payment / credit	In order for the BoP population to access previously inaccessible products and services, it is often necessary to offer specific lines of credit in order to facilitate payment and enable purchase

Continue

Appropriate	Best price-performance ratio	To meet the BoP's consumer market, products and services must have a good price-performance ratio. This is related to the impossibility of frequent replacement of products with a short period of use, as well as the inability of large investments in products or services.
	Quality (and resistant) products	Most BoP markets are located in hostile environments, surrounded by dust, unhealthy conditions and inappropriate use by its members. Therefore, such products need to offer greater resistance than those present in developed markets.
	New marketing strategies	Includes remodeling packaging for smaller portions (with the objective of reducing the price) and adopting marketing and advertising strategies specifically for BoP markets.
	Products suited to the needs of the local population and culture	The products sold to the BoP should take into account their needs, which are not always the same as the developed markets, and the local culture. In addition, when remodeling products and services for the BoP, the level of user skill and structural difficulties in accessing goods and services should be considered.
Innovative	Innovation in products and services	Purely incremental changes in products and services may not be able to meet the needs of BoP populations. Given this, there is often a need to create products and services designed specifically for attending to developing markets.
	Innovation in processes	Acting in BoP markets often requires innovation in established processes. Logistical processes, for example, can be rethought to operate in hard-to-reach places and in countries where there is not enough logistical structure.
	Business model innovation	Serving the BoP market goes far beyond simply lowering product prices, but is related to innovative business models designed specifically for the specific needs of BoP populations.
	Disruptive innovation	New ways may be required to carry out some activities, and this involves disruptive innovation related to market change. With this, some intermediaries may be unnecessary, reducing the cost of products directed to the BoP, for example.
	Bottom-up innovation	Innovations developed with a focus on the BoP markets and which can then be adapted to the top markets (bottom-up movement).
	Open innovation	Innovations developed with the help of other actors (governments, NGOs, society, universities) besides the main company.

Continue

Mutual benefits	Deep Dialogues	In order for organizations to be able to effectively attend to the BoP markets, they must fully understand what potential customers have to say and, as a result, must maintain a constant dialogue with these customers. These dialogues can be improved by promoting information and communication systems between BoP and the company.
	Replication / scalability	Because of the large size of the BoP markets, products and services intended for this public should be replicable or scalable to other communities.
	Partnerships with NGOs, governments or local companies	Acting in BoP markets requires a close relationship with consumers. These relationships can be directly or facilitated through the action of NGOs, local companies and governments that have knowledge of the local market and can assist the business-client connection.
	Stimulus for local capacities	Capacity building, training and promotion of the skills of local populations (consumers or members of the productive chain) and local companies with the goal of meeting the needs of the company and encouraging entrepreneurial actions to foster local development.
	Co-creation	Creation of products, services and business models in partnership with local populations or organizations in order to ensure maximum satisfaction of the needs of BoP markets.
	BoP as business partners	In addition to consumers, the populations of BoP markets can act as suppliers, employees, distributors, that is, local partners of companies operating in BoP markets.
Environmental Appropriateness	Strategies appropriate for environmental sustainability	Given the difficulty of maintaining natural resources in relation to current levels of production and consumption, this situation can be aggravated by the inclusion of BoP populations in the global consumer market. Therefore, business strategies and technologies suited to environmental sustainability are necessary as a means of avoiding waste and capable of eliminating, reducing or recycling raw materials and waste.

Note: The references used for the elaboration of the criteria were omitted due to space limitation.

Source: Elaborated by the authors.

These 5 categories of analysis, as well as their 21 criteria, were developed to serve as elements of analysis to study companies that operate in the BoP, since no studies with this purpose were found in the BoP literature. In order to meet the established purpose of this research, it was necessary to associate the categories of analysis and their criteria, presented in Box 1, with the dimensions of sustainability. This led to the development of six types of companies operating in BoP markets and their associations with sustainability. The development of the 6 typologies occurred according to the possible relations of the companies with the BoP populations (Box 2).

Box 2

Typology of companies operating at the bottom of the pyramid

Typology	BoP Characterization	Criteria	Expected results
Traditional performance	BoP as consumers of traditional products	BoP as a new market; Aspirations template; Ease of payment/credit	<p>Economic: access to markets at the bottom of the pyramid by offering the same products and services offered to the top of the pyramid.</p> <p>Social: superficial response to some needs of the poorest people in the world, without specific products and services.</p> <p>Environmental: environmental problems caused by consumerism to the top-of-the-pyramid modes with problems from the unrestrained use of natural resources to the non-recycling of the product at the end of its useful life.</p>

Continue

Appropriate performance	BoP as consumers of products tailored to their needs	Best price-performance ratio; Quality products / resistant; New Marketing Strategies; Products adapted to the needs of the local population and culture; Improve distribution channels	Economic: access to markets at the bottom of the pyramid through differentiated products and services adapted to the market.
			Social: meeting the specific needs of the BoP population.
			Environmental: environmental problems caused by consumerism to the top-of-the-pyramid modes with problems from the unrestrained use of natural resources to the non-recycling of the product at the end of its useful life.
Innovative performance	BoP as consumers of innovative products	Innovation in products and services; Innovation in processes; Innovation in business models; Disruptive innovation; Bottom-up innovations; Open innovation	Economic: access to markets at the bottom of the pyramid through innovative products and services to meet their needs.
			Social: meeting specific needs of the BoP population through innovative products developed specifically for the needs of this market.
			Environmental: environmental problems caused by consumerism inspired in top-of-the-pyramid behavior, with issues ranging from the unrestrained use of natural resources to non-use of the product at the end of its useful life.
Performance focused on mutual benefits	Direct and mutual benefit relationships between organizations and the BoP	Deep dialogues; Replication / scalability; Partnerships with NGOs, governments or local companies; Stimulus to local capacities; Co-creating; BoP as business partners	Economic: companies focused on mutual benefits seek economic results through joint action and broad benefits to BoP.
			Social: companies with a focus on mutual benefits offer products and services developed through in-depth dialogues with the BoP, which can be replicated to other locations, aided by a host of stakeholders. In addition, there may be concern about the generation of income in BoP through the adoption of its members as suppliers, distributors and employees.
			Environmental: companies focused on mutual benefits do not focus on the environmental dimension.
Environment-friendly performance	BoP as consumers of environmentally correct products	Green leap; Strategies tailored for environmental sustainability	Economic: the companies of this typology seek economic results by acting together with the BoP regarding environmental issues.
			Social: the social question becomes relevant to the companies of this typology by offering environmentally correct products to the BoP populations.
			Environmental: the companies included in this typology have as a differential the strong concern with the environmental dimension. This involves the development of innovations related to the use of renewable raw materials, to the provision of products and services with minimal environmental impact for the BoP populations.
Sustainability-oriented performance	BoP as business partners and / or consumers of environmentally correct products and services	Strategies appropriate to sustainability	Economic: companies of this type achieve economic results by means of lucrative actions with the BoP, as long as they enable improvement in the quality of life of local populations with minimum environmental impact.
			Social: In addition to meeting the specific needs of the population at the bottom of the pyramid, companies in this typology are able to generate income for the communities in which they operate, adopting them as suppliers of raw materials, workers in companies, distributors of products, besides them being consumers.
			Environmental: the companies that fit this typology are companies that are concerned with the environmental pillar of sustainability regarding the development of products and services that take into account environmental issues, from the raw material, through the production, use and recycling of products.

Source: Elaborated by the authors.

Although the characteristics of the companies classified in the latter typology are the most favorable to contribute to sustainability (Box 2), it should be noted that there are degrees of sustainability - that is, not all 3 dimensions are always met. Similarly, it can be said that not all the criteria presented here necessarily must be satisfied, since this depends on the characteristics of the company under analysis. Therefore, the variety of criteria is related to the possibility of its wide use. In addition, it should be noted that the 5 categories of analysis set out in Box 1 were identified in the area literature; already the 6 typologies presented in Box 2 advance such discussions and propose a new element based on the one directed towards sustainability (sixth typology).

CASE STUDIES AND RELATIONS WITH THE BOTTOM-OF-THE-PYRAMID MARKET

For the empirical verification of the framework, a multi-case study involving 5 companies was developed. This section is divided in: 1) presentation of the cases; 2) analysis of the criteria according to the evidence of each case; 3) contributions to sustainability.

The cases included in this research will be called Company A, Company B, Company C, Company D and Company E, in order to guarantee the right of confidentiality of the participants. Box 3 presents the cases involved in the empirical analysis, involving a brief description of the business and the role of the BoP.

Box 3

Cases included in the research

Case	Location	Size	Business	BoP's role
Company A	Curitiba/ PR	Small-sized company	Development and commercialization of food directed to people in situations of hunger or victims of natural catastrophes. These products are sold to humanitarian aid organizations and distributed free of charge for the BoP.	BoP as product consumers
Company B	Curitiba/ PR	Small-sized company	Assistance in the regularization of urban areas occupied irregularly, mostly by members of the bottom of the pyramid.	BoP as service consumers
Company C	Curitiba/ PR	Medium-sized company	Development and management of an online platform for the sale of handicrafts made mostly by individuals at the bottom of the pyramid.	BoP as business partners (craft suppliers)
Company D	Niterói/ RJ	Small-sized company	Development, manufacture and sale of recycled papers with addition of seeds sold to marketing campaigns of large companies.	BoP as business partners, recycled paper suppliers and employees
Company E	Maringá/ PR	Medium-sized company	Development, production and sale of products made from silk produced with raw material that would be discarded in the industry and with natural dyeing.	BoP as business partners (suppliers of raw materials and employees)

Source: Elaborated by the authors.

Now the empirical evidence from the cases is associated to the analytical framework, comprising the 21 criteria aggregated in five categories (Box 4).

Box 4
Criteria Analysis

Category of analysis	Criterion	Summary of the analysis of the criteria				
		Company A	Company B	Company C	Company D	Company E
Traditional	BoP as a new market					
	Model of Aspirations					
	Ease of payment/credit					
Appropriate	Best price-performance ratio					
	High quality and resilient products					
	New marketing strategies					
	Products that are adequate for the needs of the local population and culture					
	Improve distribution channels					
Innovative	Innovation in products and services					
	Innovation in processes					
	Business model innovations					
	Disruptive innovation					
	<i>Bottom-up</i> innovations					
	Open innovation					
Mutual benefits	Deep dialogues					
	Replication/scalability					
	Partnerships with NGOs, governments, or local companies					
	Stimulus for local capacities					
	Co-creation					
	BoP as business partners					
Environmental appropriateness	Appropriate strategies for environmental sustainability					

Legend: not satisfied satisfied not applicable

Source: Elaborated by the authors.

Analyzing Box 4, it is noted that only Company B met all 3 criteria of the **traditional** category, since it views “the BoP as a new market to be served” and, for this, uses initiatives related to the “model of aspirations” criterion and strategies that seek to “facilitate payment” for their products. Company A, in turn, satisfied only the “BoP as a new market” and “payment facility” criteria by selling its products to low-income market populations, although the paying actors are humanitarian aid organizations and not the BoP population directly. On the other hand, companies C, D and E received the “not applicable” classification for the three criteria of this category. This is due to the business characteristic of not selling their products and services exclusively to BoP and, since the criteria of this category are closely related to this characteristic, they were not evidenced in the research.

Regarding the **appropriate** category, Company A met 4 of the 5 criteria presented, except for the “improvement in the distribution channels”, due to the characteristic that the direct clients of the company are humanitarian aid organizations and not the BoP populations. The distribution of products is carried by these organizations. Company B has met 3 criteria by having a “better price-performance” service, by implementing “new marketing strategies” to reach the BoP market and by considering “population suitability and local culture” for the provision of their services. Only 2 criteria were not met. This, however, is due to the business of the company - related to the provision of service and not to the commercialization of products. The companies C, D and E did not meet the 5 criteria of this category of analysis because they do not sell their products and services in the BoP market and, therefore, it was impossible to analyze their data regarding the criteria in question.

As for the **innovation** category, all 5 companies met the criteria related to “innovation in products and services” and “innovation in processes”. This is due to the need for innovation when the focus is the sale of products or services to the BoP market, in the case of companies A and B, and also when the focus is not on selling goods to the lesser purchasing power exclusively, but rather when there is interest in adopting the BoP as business partners. This is happening in Company C by adopting the BoP as suppliers of handcrafted products; in Company D by having the BoP as suppliers of recycled paper and employees; and in Company E by adopting the BoP as suppliers of raw materials and employees.

Still in the **appropriate** category, companies B, C, D and E satisfied the criterion “innovation in the business model”. By offering innovative products or services in the BoP market, they had to change the configuration of their business models. For Company A only, no evidence was found to satisfy the criterion. This is mainly due to the characteristic of the food product developed by the company which, as informed by an interviewee himself, was innovative only in its application and its use, but not in the way it was managed by the company. The other criteria were not evidenced in any of the cases.

As for the **mutual benefits** category, companies B, C, D and E met the criterion “deep dialogues”, characterized by the need for constant contact with the BoP. They showed proximity to populations either for the commercialization of services (Company B) or for the establishment of business partnerships (companies C, D and E). Company A was the only one not included in this criterion. This is due to the sales characteristic for humanitarian aid organizations and not directly to BoP. The criterion regarding the “replication/scalability” capacity of the business was satisfied only by Company B, which sought to offer its service to several cities in different Brazilian states. The other companies were classified as “non-applicable”, since the characteristic of the business makes it impossible, at least at first, to scale.

Still in the **mutual benefits** category, the criteria “partnerships with NGOs, governments or local companies” was met by companies A (partnership with NGOs and governments), B (partnership with governments), C (local companies) and D (local companies). Only Company E did not meet this criterion and, as informed by an entrepreneur, there is room for partnerships, but they have not yet occurred. Companies C, D and E met the criterion related to the “stimulation of local capacities”, once they adopt the BoP as business partners, giving conditions for their development. Companies A and B, because they only market products and services to low-income markets, did not meet this criterion. The “co-creation” aspect was not satisfied by any of the companies analyzed. This is related to the lack of direct contact with the BoP populations in the development stage of the new products and services. As for the criterion “BoP as business partners”, it was not satisfied by companies A and B, which only market their products and services with this market. The other companies met this criterion by adopting the BoP as suppliers (Company C) and as suppliers and employees (companies D and E).

Finally, the **environmental adequacy** category and its criterion “strategies appropriate to environmental sustainability” was verified in companies D and E, because, in these cases, evidence was found regarding the responsible use of resources, use of waste that would be discarded or some other element that is in line with the environmental dimension. In companies A, B and C no elements were found to justify the satisfaction of this criterion.

CONTRIBUTIONS TO SUSTAINABILITY

After analyzing the data through the five categories of analysis and their respective criteria, it is necessary to specifically address the contribution of each case to the economic, social and environmental dimensions of sustainability (Box 5).

Box 5

Business focus on dimensions of sustainability

Case	Company A	Company B	Company C	Company D	Company E
Focus	Economic Social (-)	Economic Social	Economic Social	Economic Social Environmental	Economic Social Environmental

Source: Elaborated by the authors.

In Box 5, it can be noted that all companies have a focus on the social dimension, as well as in the cases studied by Gold, Hahn and Seuring (2013). This is in line with the central concern of the BoP perspective, related to the possibility for business organizations to assist in the development of the needy. Company A does this through the commercialization of its innovative and low-cost products to quench the hunger of people in extreme situations; Company B acts in this manner through regularization of invaded areas; Company C carries out the intermediation between artisans and the market; Company D helps paper pickers and other residents of the poor community in which it is inserted, and Company E assists the needy giving benefits for the population residing in the neighborhood in which it is installed, especially the BoP populations, improving their quality of life, and can generate income or provide opportunities for individuals to work. The companies therefore reduce the poverty problem and contribute to the social dimension of sustainability.

The environmental dimension was considered only in the cases of Company D (paper recycling) and Company E (recycling raw material that would be discarded and by the use of natural dyes). This shows that the environmental dimension is not always met in companies that have relations with BoP communities. This conclusion is in line with patterns found by Gold, Hahn and Seuring (2013), which, through the study of 3 cases of companies operating in the BoP market, showed negligence with the environmental dimension of sustainability.

The economic dimension was considered in all cases investigated. Companies A and B contributed to this dimension by selling products and services to needy communities. However, regarding companies C, D and E, although they do not have the BoP as their target market, the proximity to these communities guarantees competitive advantages, as verified in the interviews, allowing economic gains for the organizations. This is in line with the main assumptions of the approach that relates the possibility of economic gains allied to social inclusion and poverty reduction of the populations of the economic BoP across the world.

Finally, when considering the findings of this research, which show, in a first moment, the contributions of the five cases investigated in relation to the 5 categories of analysis illustrated in Box 1, one can see how the categories of traditional, appropriate performance, innovative, multi-benefits and environmental suitability were contemplated (or not) in each case. It can be noted that the categories considered most prominently are related to the need for innovative action and mutual benefits in the analyzed contexts. This reflects a constant thought in the field that taking benefits to needy populations through business performance must occur by means that are innovative and able to contemplate a large part of these populations. It should be noted that the first two categories do not apply to the business model of cases C, D and E, but they were relevant for cases A and B and, therefore, revealing the need for a traditional performance of the BoP field, as well as an appropriate performance for these new markets.

Moreover, in Box 2, it can be noted that, in linking the research findings to the dimensions of sustainability, all 5 cases met the economic criterion - that is, they operate in the BoP communities for financial and market reasons. The social dimension was also contemplated in the 5 cases, emphasizing how social value is built in the field of BoP populations. The environmental

dimension was contemplated in only 2 cases, which can be interpreted as something of secondary or recent relevance to the analyzed context.

It is also worth mentioning that the empirical findings of the research do not intend to represent the field of companies operating in the BoP, due to the qualitative and exploratory approach used, but rather to analyze the contributions of each business model in question to the dimensions of sustainability from the use of the analytical model presented (Boxes 1 and 2). These empirical contributions related to the 5 cases can also be interpreted as an example of how the suggested analytical model can be applied to better understand the connection between the BoP perspective and sustainability, two relevant issues for the advancement of economic and social allied progress to sustainable precepts in economic BoP markets across the world.

CONCLUDING REMARKS

With the intention of filling the theoretical gap in the BoP literature regarding a pragmatic and unified view on the performance of companies in the BoP and the consequences of this for sustainability, this article sought to analyze how companies classified under the BoP perspective contribute to sustainability. To do so, the article proposed, through an integrative analysis of the publications of the area, an analytical framework consisting of 5 categories of analysis and 21 criteria. This engendered 6 typologies that seek to identify the contributions of the BoP businesses with the dimensions of sustainability. In order to empirically verify the framework, 5 cases were analyzed. Based on the criteria developed, it was possible to classify them along the dimensions of sustainability.

It should be emphasized that the framework proposed applies to all types of companies, whether small, medium or large, or even national or international. In this sense, as a theoretical contribution for the field, other researches may use the analytical framework proposed to better understand the link between actions of companies in the BoP and their impacts on sustainability dimensions, since this was not found in the literature. Although the cases analyzed in the empirical part of this article are small and medium-sized companies, future studies could use the criteria and typologies developed here in the investigation of companies with different sizes. In addition, as a practical contribution, this study could help entrepreneurs in the early stages of their business to consider the various possibilities of working with low-income markets, involving the creation of social value in localities and actions that concern environmental issues.

It should be emphasized that the social and environmental consequences of business performance in BoP markets is a relevant issue for future research. Since some publications in the area, although still insufficient, have already shown such a concern, few available empirical studies have been made available. As suggestions for future studies, the following stand out:

1. The need for a greater number of researches to complement or refute criteria and typologies presented in the framework proposed here;
2. The opportunity to develop quantitative researches, capable of understanding characteristics of a larger number of companies within the BoP perspective and its main variables, in order to establish standards and propositions about the phenomenon under analysis;
3. The lack of research relating the BoP perspective to sustainability demands new contributions that can better clarify how the two topics can be woven together. We expect, a better understanding of how the potential contributions that actions developed within the scope of sustainability can help to improve the quality of life of people living in poverty, while, at the same time, identifying market opportunities for companies;
4. The restriction of natural resources and the need to include poor people in the global market seems to be a challenge for today's organizations. In this sense, studies that connect sustainability and the BoP can collaborate with the development of practices while contributing to fill theoretical gaps in the literature that involves both topics.

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